

Thinking, saying and doing in collaborative projects: What can we learn from theories of practice?

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Reflecting the practice turn across the social sciences more generally, there has been a recent upsurge of interest in practice theories for the study of engineering, architecture, and construction and research on the management of projects. This is a welcome addition to the theorization of projects. With their emphasis on the emergent and ongoing constitution of social orders and change through situated practices, practice theories offer a potentially powerful and sensitive way of understanding the complex unfolding of project work. However, this paper argues that they also bring with them a number of assumptions that may limit their potential unless addressed. In particular, I suggest that there is an anti-cognitivism in practice theories, which means that they tend to avoid important questions about the knowledgeability of practice. In an attempt to redress the balance, this paper proposes a view of thinking, saying and doing as qualitatively different practices, the differing configurations of which have implications for how fields of practice emerge and develop. The implications of this conceptual vocabulary are explored using an illustration from a two-year ethnographic study of a collaborative programme in the water industry.

Keywords: Ethnography, organizational boundaries, organizational knowledge, practice theories, project work.

Introduction

In line with a more general trend in contemporary social theory, practice-based approaches have made inroads to the study of engineering, architecture, and construction and the management of projects (Cicmil *et al.*, 2006; Styhre, 2009; Blomquist *et al.*, 2010; Hällgren and Söderholm, 2011; Hartmann and Bresnen, 2011; Askland *et al.*, 2013). We appear to be at the point where the popularity of such approaches is undergoing a perceptible upward shift. As such, it would seem to be appropriate to consider what practice theories have to offer research in these areas and, especially, whether there are aspects that require clarification and further development. This is particularly important for the investigation of cultural issues affecting project organizations because two major preoccupations of practice approaches have been the conceptualization of culture and understanding how social orders emerge from the interconnected practices of diverse sets of actors (Brown and Duguid, 1991; Lave and

Wenger, 1991; Orlikowski, 2002; Nicolini *et al.*, 2003; Nicolini, 2012).

Rather than a single, unified framework, practice theories are a broad collection of approaches that seek to understand social phenomena and the emergence of social orders through the detailed study of their generative practices (Gherardi, 2000; Feldman and Orlikowski, 2011). Nicolini (2012) identifies six theoretical traditions that, although different, share a common interest in understanding practice as a central component of social life. These include the praxeology of Giddens (1984) and Bourdieu (1977, 1990); practice as tradition and community, especially situated learning theory (Lave and Wenger, 1991); cultural-historical activity theory (Engeström *et al.*, 1999); ethnomethodology (Garfinkel, 1967); the Heideggerian and Wittgensteinian traditions and their contemporary proponents (Wittgenstein, 1953; Heidegger, 1962; Schatzki, 1988, 2002); and theories of discourse as practice (Foucault, 1977, 1980; Faiclough, 1992). While such theoretical traditions and the conceptual

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and methodological approaches that draw upon them offer a potentially powerful and sensitive way of comprehending the complex unfolding of project work, there are some aspects of practice theories that tend to be less well developed than others. Principal among these is a relative neglect of the role of thinking in practice (and as a practice) compared to saying and doing. This silence can arguably be traced to the genealogy of practice theories as a reaction to the cognitivism and functionalism of orthodox social theory. In the study of organizations, for example, practice approaches arose in critical response to dominant theories of organizational knowledge and learning that drew inspiration from cognitive psychology (Lave and Wenger, 1991; Strati and Nicolini, 1997). One consequence of this has been an unwillingness in practice-based approaches to introduce any concepts that might be misconstrued as cognitivist in any shape or form. This is understandable, but it tends to mean that issues about the mindfulness (or otherwise) of practices are pushed to the background.

This is not to say that the participants engaged in practices are not considered to be knowers. On the contrary, whether practices are performed skilfully and appropriately or not has been theorized as relying on practical consciousness (Giddens, 1984), practical sense or a 'feel for the game' (Bourdieu, 1990, 1998) that provides a socially shared background of knowledge to enable practices to be orchestrated. What many practice theorists have been unwilling to do is to seek out the basis for such knowledgeability for the fear of invoking an individualistic image of practices being driven by separate cognizing agents, each equipped with the prior set of knowledge to carry them out more or less successfully. In my view, practice theories are justified in avoiding such atomistic explanation but often go too far in side-stepping questions about individual and collective minds. Thus, despite learning being a central concern of practice theories, we are often presented with the near-tautological argument that the knowledgeability of actors can be inferred from the observation of practices in action (Reckwitz, 2002). Knowledge and action are treated as inseparable and mutually constitutive. According to this view, knowledge does not exist as a thing prior to action; it is literally enacted or brought into existence through practice.

However, introducing an understanding of cognition into practice theory does not mean that one necessarily takes on the questionable assumptions and conceptual baggage of mainstream cognitive theories (Marshall, 2008). Indeed, there are a number of contributions to the study of cognition that display assumptions closer to practice theories than traditional cognitive theories (Cicourel, 1974; Hutchins, 1995; Greeno, 1998). They begin to fill the gap left by practice theories with

regard to the antecedents and outcomes of knowledgeable practice, taking us into the realm of socially shared beliefs, values, expectations and assumptions that both condition experience and are in turn shaped by it. This is important because as Schatzki (2001, p. 42), one of the foremost theorists of practice, has argued (against the current of most practice-based theorizing): 'It is the role that a socially constituted mind plays in structuring practices that certifies practices as the place of social order'.

Intended as a sympathetic critique of practice theories, this paper explores how practice, as a varied and open-ended performance, brings together thinking, saying and doing in different configurations under specific activity settings. Building on earlier contributions, it considers the implications of practice theories for studying project work, and especially their potential for understanding how collaboration between project participants emerges as a social accomplishment from their collective situated practices. However, it also seeks to extend practice theories by highlighting the knowledgeability of practices and the interplay between routine and mindful activity. To do so, the paper first offers an outline of the main precepts shared by the majority of practice theories and an assessment of their strengths and weaknesses. The argument is then made that the boundaries between thinking, saying and doing are typically blurred in practice-based approaches. There are sound philosophical reasons for doing this, as it avoids the limiting dualisms attendant on enforcing strict distinctions between them. However, there are arguably good analytical reasons for distinguishing between these categories as qualitatively different practices, which individually and in combination manifest themselves in a variety of ways. It then moves on to consider the relevance and implications of practice theories for understanding project collaborations before illustrating the argument with an example drawn from a two-year ethnographic study of a capital projects team in the UK water industry.

Theories of practice: What are they and what do they have to offer?

Research on organizations has in recent years seen a progressive increase in popularity in practice theory. The growing number of contributions focusing on practice-based approaches has been such that some go so far as to claim that there has been a practice turn in organization studies (Miettinen *et al.*, 2009; Nicolini, 2012). This reflects a wider movement within social theory more generally, although it is fair to say that practice has been a long-standing focus of attention for many

theorists over the years, especially in sociology (Garfinkel, 1967; Bourdieu, 1977, 1990; Giddens, 1984; Latour, 1987; Pickering, 1995; Knorr-Cetina, 1999; Schatzki *et al.*, 2001). Within organization studies, the areas where practice theories have made the most impact have been organizational knowledge and learning (Brown and Duguid, 1991; Lave and Wenger, 1991; Cook and Brown, 1999; Gherardi, 2000, 2001, 2006; Nicolini *et al.*, 2003; Nicolini, 2011), strategy (Jarzabkowski, 2004, 2005; Whittington, 2006) and technology (Suchman, 1987; Orlikowski, 2000), with more localized contributions found across a range of other topics (e.g. innovation, routines, marketing, institutions, accounting, working across organizational boundaries). However, to talk of a practice turn is not to suggest that there is a single point of reference or strong degree of coherence between the various approaches that have been proposed. Indeed, as Nicolini (2012) has warned, it is mistaken to search for a single, unified theory of practice (see also, Schatzki, 2001). Instead, practice theories comprise a diversity of alternative approaches, perspectives and methods that defy easy synthesis. The very richness of this plurality has been identified as something to be celebrated not reduced or removed (Gherardi, 2001). Nevertheless, according to Nicolini (2012), it is important in drawing upon this plurality to have a clear appreciation of the similarities and differences among the various traditions that have contributed to the practice field or there is a risk of attempting to combine theories with different and potentially incompatible assumptions.

Being mindful of these differences, there are nonetheless a number of key features and concerns that are broadly shared across the landscape of practice theories. Feldman and Orlikowski (2011, p. 1241) identify three sets of principles or what they refer to as ‘theorizing moves’ subscribed to by practice-based approaches: ‘(1) that situated actions are consequential in the production of social life, (2) that dualisms are rejected as a way of theorizing, and (3) that relations are mutually constitutive’.

The first point emphasizes the constitution of social phenomena as an active accomplishment, which is historically, culturally and materially situated. The features of social life, including the apparently most durable structures and institutions, are not simply out there, ready-made, unchanging and waiting to be discovered. They are the consequence of effortful social action whereby ‘phenomena such as knowledge, meaning, human activity, and sociality are aspects and effects of the total nexus of interconnected human practices’ (Nicolini, 2011, p. 602). This shifts attention away from a thing-based ontology which ‘accepts the existence of an objective reality, made up of things bearing properties and entering into relations’ (Winograd and

Flores, 1986, p. 73). Instead of *being*, the emphasis shifts to *becoming*, with a concomitant focus on a philosophy of process (Whitehead, 1929, Mead, 1934, 1938; Heidegger, 1962). In organization theory, this has been manifested in the shift from treating organizations as relatively fixed entities with clear structures, functions and boundaries (i.e. organization as a noun), towards understanding organizing as a contingently unfolding and emergent set of interlocking practices (i.e. organizing as a verb) (Weick, 1979; Chia and Holt, 2006). The more radical process theories portray the social world in ceaseless flux, which has attracted some criticism in terms of downplaying the stabilization and order that frequently emerges from the constant flow of process (Bakken and Hernes, 2006). Most practice theories though simultaneously acknowledge the open-ended, provisional and revisable nature of social phenomena while also seeking to understand how more or less durable patterns and social orders emerge from an ongoing procession of interconnected practices. This issue is also relevant when considering the third feature of practice approaches, to be discussed below, namely their central appreciation of the relational, recursive and mutually constitutive nature of practices.

The second common orientation of practice theories identified by Feldman and Orlikowski (2011) is their rejection of dualistic reasoning. Adherents of practice approaches are suspicious of any attempt to separate out phenomena into discrete categories, which are then treated in binary or mutually exclusive terms. For example, the practice-based literature on learning is deeply critical of cognitive approaches that depict learning as a matter of accumulating schemata and mental models through which to represent the world (March and Simon, 1958; Newell and Simon, 1972; Kahneman *et al.*, 1982; Gentner and Stevens, 1983; Johnson-Laird, 1983; Hodgkinson and Sparrow, 2002). This container-like view of learning relies on a series of sharp dualisms. As Gherardi (2006, p. xv) has argued, such theories suggest ‘that knowledge resides in the heads of persons, and that it is appropriated transmitted and stored by means of mentalistic processes. This figure works through the dichotomies of mind/body, thought/action, individual/organization’. Instead of treating such categories as fixed and absolutely independent, practice-based theories emphasize the mutually constitutive character of knowledge, action and experience (Lave and Wenger 1991; Orlikowski 2002). This is clearly consistent with a focus on the engaged character of knowing as a situated activity, rather than as a separate domain as it appears in the spectator view of knowledge, where the knower stands outside the action as a dispassionate observer (Dewey, 1929). Since knowledge is imbricated in practice and vice

versa, there can be no stepping outside of the flow of experience to find an independent, objective perspective.

The anti-dualism of practice theories is also strongly evident in the third shared feature, which emphasizes the relational and processual character of apparently stable or self-evident categories and phenomena. As Østerlund and Carlile (2005, p. 92) have explained, practice theory

looks not only at the recursive dynamics of a given relation but places everyday practice as the locus for the production and reproduction of relations. This creates a dynamic theory that proves helpful in breaking down problematic dichotomies imposed by non-relational theories.

Traditional cognitive theories are again the target of criticism, as are orthodox functionalist perspectives on organization. In theories of cognition, for example, there has been a tendency to seek universal mental structures and abstract sets of representational rules to understand how people make sense of a world treated as entirely separate and external to cognition (Johnson-Laird, 1983; Rogers *et al.*, 1992; Brachman and Levesque, 2004). In contrast, practice theories regard such separations as literally meaningless. As Lave and Wenger (1991, pp. 50–51) contend,

... a theory of social practice emphasizes the relational interdependency of agent and world, activity, meaning, cognition, learning, and knowing. It emphasizes the inherently socially negotiated character of meaning, and the interested, concerned character of the thought and action of persons-in-activity.

For organization theory, such dichotomizing logic can be clearly seen in accounts of organizations and their environments, where the former are portrayed as more or less clearly bounded entities operating within a yet wider container of external influences and interactions (Burns and Stalker, 1961; Thompson, 1967; Aldrich, 1979). This involves reifying organizations rather than seeing them as the continually constituted and shifting consequence of complex, dynamic and interlocking practices. From reification it is a short step to endowing the entities thus produced with a necessary and innate substance or essence. Following this line, organizations and other socially constructed phenomena, such as individuals, groups, teams, communities and projects, instead end up being treated as self-evident entities, with their own defining characteristics and causal powers. Practice theories share a concern with disrupting the taken-for-grantedness of such categories and revealing them as active social accomplishments that

are relationally constituted. Acknowledging knowledge and practice as co-conditioning and mutually constitutive further highlights their situated character whereby there is an active and recursive relationship between practices and the settings and situations that they are embedded in. This is because at issue here is not knowledge as a self-standing body of propositions but identities and modes of action established through ongoing, specifically situated moments of lived work, located in and accountable to particular historical, discursive and material circumstances' (Suchman, 2000, pp. 312–313).

Instead of starting with a social world of stable entities and fixed categories and then trying to animate them by linking them together into systems of interaction, practice theories begin with a process ontology that sees the world as constituted through the restless and ever-changing flow of interconnected practices. The conceptual challenge then becomes one of explaining how order and stability can emerge from such fluidity, as well as novelty and change. The responses of practice theories to this central problematic have been varied, but there is a common concern with how orders are negotiated, instantiated or enacted through ever-changing constellations of practices. However, as argued in the next section, the failure of practice theories to offer a sustained and convincing account of the knowledgeability of practices limits the usefulness of their solutions to the problem of social order as the shifting interplay of both stability and change.

Clarifying and extending practice theories

The common orientation of practice theories towards the conceptual challenges identified by Feldman and Orlikowski (2011) vividly demonstrates their potential for offering a powerful theorization of a range of organizational phenomena. There is indeed much to be learned from practice theories. However, without denying their clear value, there are arguably a number of ambiguities and blind spots that need to be addressed if the potential of these approaches is to be taken even further. Chief among these is the tendency of practice theories to downplay the role of cognition in social practice, which in turn leads to a prioritization of doing, and in some cases saying, over thinking. This is entirely consistent with the anti-essentialist and anti-dualistic foundations of practice theories and it is not my intention to undermine these and reinstate the assumptions of orthodox cognitive theories that theorists of practice have challenged (e.g. methodological individualism, mentalism, the existence of innate cognitive structures). However, in their efforts to avoid any hint of dualistic thinking, practice theories effectively blur the

boundaries between the categories they invoke and, in doing so, tend to gloss over questions about the mindfulness or otherwise of practice and roll together thinking, saying and doing into an ontologically justified but epistemologically impenetrable knot. Similarly, by criticizing accounts that treat knowledge as an object or thing to be created, stored, and transferred and focusing instead on knowing as a practice, such theories tend to concentrate more on how people know rather than what they know. Again, this is not about simply reinstating a view of knowledge-as-object, with all the limitations that would entail, but rather to signal the theoretical and empirical significance of what people know, individually and collectively, for shaping how practice episodes, and the knowing that takes place therein, unfold. Cook and Brown (1999) went some way in this direction by depicting a 'generative dance' between knowledge and knowing or knowledge as possession (or object) and practice, but the specific nature of this dance was not fully explored.

This is an empirical matter and not just of theoretical significance because it is patently not the case that practice theories have no interest at all in the knowledgeability of actors. On the contrary, one need only look at the many empirical examples that practice theorists have used to see that for people to be competent performers in a particular situation or community they must be (or become) knowledgeable (Lave and Wenger, 1991; Cook and Yanow, 1993; Orr, 1996; Wenger, 1998; Gherardi and Nicolini, 2002; Nicolini, 2011). However, in such studies knowledgeability is invoked more as a theoretical possibility than something that is empirically demonstrated. To put this another way, it seems sufficient to point to the performance of practices to demonstrate knowledgeability at work. As Wenger (1998, p. 135) proposes: 'Rather than starting with knowing, then, let me start with practice'. It is then from the detailed study of practices that the nature of knowing can be inferred. However, this does raise questions about the extent to which knowing is visible in the study of practices, the methodological implications of which are discussed later in the paper.

Of course, issues about the knowledgeability of practice are also of deep theoretical significance. Nowhere is this more evident than in debates about how to theorize the emergence of social orders without resorting to explanations based on the existence of pre-given structures or the simple combination of the actions of purposive agents. Most practice theories adopt a fairly similar take on how stability and order can be constituted through fluidity and change. However, as suggested above, there is a missing element in these theorizations concerning the role of knowledge.

To cope with the issue of order, practice theories typically draw on a range of ideas from wider social theory,

especially Bourdieu's theory of practice and Giddens' structuration theory. Although there are important differences, both offer a relatively similar treatment of the reciprocal and recursive relationship between structure and agency while attempting to avoid the twin pitfalls of either structuralism or voluntarism. For Bourdieu (1977, 1990), ongoing collective practices are guided by 'durable transposable dispositions' associated with a given *habitus* that provide the generative rules and resources, applicable across a wider or narrower set of circumstances, permitting a practical sense (*sens pratique*) or feel for what is and what is not appropriate conduct given the situation at hand. These dispositions, which incline people to think, act and react in particular ways, are gradually and progressively established through a process of inculcation for which early childhood experiences are especially important, but which are also subject to subsequent addition and modification.

Structuration theory is another influential attempt to transcend the dualism between structure and agency, in this case founded on the core notion of 'duality of structure' (Giddens, 1979, 1984). This is intended to capture the idea that neither social structures nor human agency are logically prior nor have existence independent of each other. Instead, they are mutually constituted, whereby 'the structural properties of social systems are both medium and outcome of the practices they recursively organize' (Giddens, 1984, p. 25). Orlikowski (1992, 2000, 2002), for example, has drawn upon structuration theory in her efforts to develop a practice-based account of the use of technologies. She has argued that

[s]uch a practice lens recognizes that emergence and impermanence are inherent in social structures - that while habitual, routinized, and institutionalized patterns of using a technology may be evident, these are always ongoing accomplishments, and thus there can be no single, invariant, or final technology-in-practice, just multiple, recurrent, and situated enactments. (Orlikowski, 2000, p. 412)

While both Giddens and Bourdieu offer answers to the question of the transmission of practices, in the form of rules and the practical knowledge of how and when to apply them, they have each been criticized for being rather vague about where they come from and how they evolve. According to Schatzki (2001), what is missing is a convincing account of the role of social mind. He argues that '... causal connections between actions are mediated by what I contend organizes practices, namely, mind' (Schatzki, 2001, p. 48). He is clear, however, that he is not referring to mind as some separate or pre-eminently causative substance that exists

entirely prior to practice ‘as a thing or apparatus that causes behavior’ (Schatzki, 2001, p. 50). Neither is he content to accept concepts such as practical sense (Bourdieu, 1990) or practical consciousness (Giddens, 1984) as explanations of the ‘mindedness’ of practices and the orders that emerge from them. In his opinion, this is because such constructs do not adequately explain how the same practical understanding of a certain situation can generate a whole range of different responses. In an attempt to elucidate how situated practices are both historically grounded and generative of difference, Schatzki (2001) refers to two groups of explanations. The first relates to a number of abilities whereby practices are shaped by the linking together of being able to perform, identify, instigate and respond to particular practice situations. That is to say, practices are influenced by knowing how to do something, being able to identify when something has been done, being able to prompt or instigate similar performances and being able to respond to other instances of such things being performed. If the first group of explanations refers to understandings or abilities related to the performance of practices, the second is more about what determines practical intelligibility, which is about the multiple, but also delimited, possibilities of what it makes sense to do in a given situation (Schatzki, 2001, 2002).

These ideas are influenced by the work of Wittgenstein (1953) on rule following behaviour and the inevitable incompleteness of rules. Rules are rarely, if ever, comprehensive and able to account for every situation and eventuality (Reynaud, 2005). They are always liable to be misunderstood or misapplied and it would be excessively burdensome, if not impossible, to supply the necessary information to prevent such misunderstandings (as a number of the ‘breaching’ experiments conducted by Garfinkel (1967) clearly demonstrated). Taylor (1993) has suggested that rules can never contain the principles of their own application. If rules are purely about formal internal representations of what should be done (which is how cognitive theories approach this issue), then the only way that errors of application can be corrected is through the provision of further rules, which could potentially lead to an infinite regress of rules about rules *ad infinitum*. However, Taylor has argued that rule following is only possible against an unarticulated background of understanding, or ‘form of life’ to use Wittgenstein’s (1953) terminology, comprising an embodied, practical mastery acquired in the form of habits, dispositions, tendencies and so on. Crucially, the incompleteness of rules and their achievement against a background of practical know-how mean that there is always scope for improvisation within rule-guided action. The creativity at the core of

rule following behaviour is also highlighted by the ‘et cetera principle’ in ethnomethodology, which suggests that communication is usually based on a mutual assumption of incompleteness (Garfinkel, 1967).

For Schatzki (2001), it is the mindedness of practice that allows for both order and the potential for change to emerge from situated performances. However, there is an important issue here about whether this involves the conscious fitting together of rules and situations or is an altogether more unarticulated process. Following Heidegger (1962), Schatzki (1988) emphasizes the latter position, regarding social reality as a matter of being-in-the-world, or more precisely given the interaction of different people, ‘being-in-interconnected-worlds’. Accordingly, as Dreyfus (1993, p. 24, emphasis in original) comments, Heidegger’s temporal concept of skilful coping in the continuous performance of actions within specific settings therefore does ‘not require a mental representation of its goal at all. It can be *purposive* without the agent entertaining a *purpose*’.

However, this position has attracted some criticism. Caldwell (2012, p. 285), for example, has argued that

what is missing from Schatzki’s neo-Heideggerian ontology of practice is not only a notion of theoretical intelligibility, of practical knowledge and knowing that includes rational, cognitive or representational principles of shared understanding, but also an exploration of the power of language and discourse to redefine the possibilities of self, subjectivity and agency.

To put this another way, Schatzki tends to subsume thinking and saying under doing, ultimately giving primacy to an understanding of practice as ‘doing’ that downplays the role of language, discourse and more reflective forms of knowing whereby the meanings of past, present and future actions are negotiated. This is significant because it is precisely such opportunities for active examination and negotiation that can shape the subsequent ways that practices unfold. This is evident in the notion of ‘breakdowns’ suggested by Heidegger (1962), and extensively in the work of American pragmatist philosophers such as Peirce (1878), James (1907, 1912), Dewey (1922, 1938) and Mead (1934). In particular, the pragmatist theory of inquiry is conceived in terms of an active interplay between people and the situations they encounter in which existing norms, routines, and patterns of thinking and practice play an important part as both a condition for, but also a potential barrier to, change and development. Inquiry is a dynamic, involved and interested process where people are actively stimulated to inquire by some frustration or doubt that disrupts the flow of their experience (Peirce 1878; James, 1907). Inquiry is

driven by efforts to remove the source of doubt so that action can be resumed. This formulation can also be seen in the distinction made by Schön (1983) between reflection-in-action and reflection-on-action set in motion by disruptions to the flow of practice. As he suggested

[t]he practitioner allows himself to experience surprise, puzzlement, or confusion in a situation which he finds uncertain or unique. He reflects on the phenomenon before him, and on the prior understandings which have been implicit in his behaviour. He carries out an experiment which serves to generate both a new understanding of the phenomenon and a change in the situation. (Schön 1983, p. 68)

To summarize the argument so far, while practice theories offer a powerful way of studying organizations in action, there are a number of lacunae and ambiguities that need to be resolved. Acknowledging the mindedness of practice is crucial for understanding the construction and modification of social orders, but it is also important that this process is seen as a continually shifting dynamic between habitual and unreflective practice, on the one hand, and more reflective practices of inquiry and actively orchestrated processes of negotiating meaning through social interaction, on the other. Thus, addressing the potential weaknesses of practice theories is not about privileging either thinking, saying or doing as the primary source and outcome of practice, but rather to rebalance the relationships between them while recognizing that they are all themselves elements of practice with their own specific characteristics. Having acknowledged this, the challenge is to trace the different ways that these elements interact and to see how alternative configurations shape and remould the emergence of different practice episodes over time.

Implications for the study of project cultures and collaboration

What then are the implications of practice theories and the previous discussion for the study of project work and cultures of collaboration? To some extent, this depends on the particular ways that practice theories have been embraced by project researchers and the different traditions they draw upon. However, following on from the earlier point about the family resemblance between alternative practice theories, there are a number of common threads that run through the projects-as-practice literature (Hällgren and Wilson, 2008; Blomquist *et al.*, 2010). In line with practice

theories more generally, there is an emphasis on how practices are built up from molar actions (Nicolini, 2012) and how these in turn interlock to constitute continually emerging fields of activity. As discussed earlier, this is grounded in a process ontology that talks more in the language of verbs (project organizing) rather than nouns (project organization). Although there are some points of contact, the process ontology of practice approaches should not be confused with the process theories of project management described by Hällgren and Söderholm (2011) in their delineation of the differences between projects-as-process and projects-as-practice. Chan *et al.* (2012), for example, adhere to a process ontology when they suggest that the usual search for the essence of partnering should be replaced by an emergent view of partnering practices, which is the distinction between the thing-ontology of being and the process ontology of becoming. Similarly, Hartmann and Bresnen (2011, p. 42) seek to offer a more open-ended and provisional conception of partnering

as highly contextual and transient in nature. It continuously manifests itself in various combinations of economic, social, organizational and institutional characteristics that shape interaction between construction parties. Such a view redirects research on partnering in construction from a formal and generalized conceptualization of the approach to the study of the informal and contextual constitution of collaborative working.

In this sense, a practice approach shifts attention from project collaboration as a straightforward end point to be achieved (usually through the application of a toolkit of formal techniques and mechanisms), towards an understanding of collaboration as an ongoing accomplishment, which is actively situated within particular historical and cultural contexts and, moreover, needs to be continuously and actively constituted, with the implication that it is always potentially subject to renegotiation and revision. The ongoing negotiability of practices is something that has been highlighted by practice approaches, especially in the context of interactions between diverse social groupings, as is typical of project work (Dougherty, 1992; Carlile, 2002, 2004; Bechky, 2003). Kellogg *et al.* (2006), for example, use the metaphor of trading zone (Galison, 1997, 1999) to consider practices of display, representation and assembly that take place when participants in temporary and volatile organizational groupings come together. By doing so, they seek to extend and complement the practices of transferring, translating and transforming knowledge that enable its movement across boundaries, as explored by Carlile (2002, 2004).

The enactment of a trading zone is an ongoing accomplishment that depends on members' temporal accommodations and resistances ... as they engage with each other and their technologies. Because the trading zone is 'always in the making,' cross-boundary coordination is a contingent, emergent, and dynamic outcome that cannot be planned or prescribed, but is highly dependent on the situated activities of the various communities. (Kellogg *et al.*, 2006, p. 39)

Bechky (2003) has also written about the attempts by different occupational communities to bridge their differences by building common ground, which entails the joint development of newly shared contexts. This suggests that settings are not fixed for all time and the potential for ideas to flow between them thus partly depends on how far practices in each are analogous or translatable. However, a lot also depends on how situations are interpreted and thus constituted. For example, somebody interpreting an unfamiliar situation according to their own setting-specific assumptions and norms may find that they are inappropriate or come into conflict. This interpretative, symbolic aspect has been acknowledged in practice-based theories, especially those drawing on Bourdieu's work on symbolic capital (Bourdieu, 1991). However, following on from the earlier discussion about thinking, saying and doing as qualitatively different practices, by placing processes of transactional meaning-making at the centre of the analysis (cf. Mead, 1934), and showing how these help to shape the emergence of particular constellations of practice, it is possible to offer a powerful and complementary theoretical vocabulary for understanding collaborative practices across different domains. It offers a dynamic, process-orientated understanding of how people build shared spaces through their interlocking practices, both by drawing on existing, partly shared and partly different, sets of background knowledge and experience, but also potentially transforming them through their participation in temporally shaped episodes of interaction (i.e. where the conditions and outcomes of any episode provide experiences that influence subsequent episodes). Boundary work and the ongoing negotiation of meaning between different participants involved in joint practices apply to many organizational settings. However, they do have a particular resonance with, and relevance for, project settings with their multiple and intersecting contours of similarity and difference (Marshall, 2003).

Hällgren and Söderholm (2011; see also, Blomquist *et al.*, 2010) use this sort of formulation to show how project practices involve the coming together of praxis (situated doings), practice (which they define as rules, norms, values and policies) and practitioners (people

who interpret and engage in activity). In doing so, they come tantalizingly close to providing a more balanced understanding of the interplay between thinking, saying and doing than is found in some versions of practice theory. For example, at one point they suggest that: 'Practice is where the words and actions of the participants meet and integrate' (Hällgren and Söderholm, 2011, p. 508). Elsewhere they talk about how practitioners 'draw upon previous knowledge in order to make sense of the situation, and these new experiences will influence future behaviour' (Hällgren and Söderholm, 2011, p. 506). This paper has sought to take these ideas and offer some clarification about how understanding practices as alternatively configured constellations of thinking, saying and doing can offer insights into how project practices, such as collaboration, unfold in practice. By way of illustration, the following section offers an empirical example to highlight some of the benefits and challenges of viewing project practices in this way.

Empirical illustration: negotiating the meaning of sustainability

Research design

To highlight the empirical and methodological implications of my argument, the remainder of the paper offers an illustration drawn from a study conducted by the author into the practices of multi-functional project teams between 2005 and 2007. It focuses on a team undertaking a programme of capital projects in the water industry made up of members representing different functions, roles, disciplines and organizational affiliations. The team was responsible for delivering an extensive series of projects over a five-year period as part of a large capital investment programme. The research involved repeated visits to the various team locations to observe the day-to-day activities of its members, particularly in their formal and informal interactions. There were around 50 days of contact with the team over a 16-month period, with visits to a second case study team in a different industry being conducted partly in parallel. Detailed notes and, where possible, direct transcripts of meetings held for a variety of reasons (from team-level discussions to detailed planning, progress, design, and implementation meetings) as well as a fieldwork diary were kept for each visit containing a record of observations, conversations and other points of potential interest. In addition, 47 semi-structured interviews with team members lasting 1–2 hours were conducted to gather perspectives on how they regarded the practices of project work in which they were involved.

In designing and carrying out the study, there were a number of important methodological challenges that needed to be taken into account. They can be summarized in terms of the problems arising from the specific character of thinking, saying and doing as alternative practices, or elements of practice, namely problems of observability, problems of representation and problems of intelligibility.

The main challenge with studying thinking-in-practice relates to its observability. Practice theories, along with many other approaches in social research, seek to infer something about what people are thinking (and how they think) by observing what they say and do. Indeed, for some theorists, this is considered the only possible way of gaining such insights. However, it is inescapable that some aspects of thinking reveal no outward traces, or indeed in the case of more subconscious thought processes may be literally ineffable. The study employed the usual repertoire of ethnographic techniques to make inferences about the knowing revealed by the actions and interactions of the team. However, in addition to observations, this also entailed getting participants to provide their own accounts and interpretations, asking them about their assumptions and expectations prior to particular encounters and their opinion on events shortly after they happen. In addition, although the results are not reported here, the study also experimented with cognitive mapping as an interview technique for getting participants to reflect on their thinking.

For saying or, to be more precise, wider communicative practices that, of course, include much more than verbal communication, the principal methodological problem is one of representation. This is partly about the capacity of the researcher to understand what is being said (or expressed) in a given situation and to make sense of the emergent meanings that are negotiated as actors interact. This is a hermeneutic issue where inter-subjective understandings depend upon a 'merging of horizons' (Gadamer, 1977). Participants in a given situation, including the researcher, draw upon their personal stock of experiences, knowledge and beliefs to make sense of what is going on, but they do not do so in a fixed or static way. Rather, the negotiation of meaning is an interactive play of gesture and response through which socially shared understandings emerge (Mead, 1934). The difficulty for the researcher, unless they have thoroughly immersed themselves in the particular field of practice they are studying, can be in comprehending the communicative idiosyncrasies of participants, especially where the languages used are technically specialized, idiomatic and vernacular. Nevertheless, it is methodologically important for practice theories to engage with talk as a key aspect of social ordering, not only through its intersection with other

immanent practices, but also as a means of stretching, connecting and transposing across situations (Martens, 2012). Nevertheless, there are important limitations to the capacity of actors to provide meaningful accounts of their actions, not to mention those of others (Bloch, 1991). This is neatly encapsulated in Polanyi's (1966, p. 4) famous dictum that 'we can know more than we can tell'. This is because of the inefability of certain forms of knowing as well as the inability of articulated knowledge to express the embodied character of particular experiences. Again, the only option is to take the accounts we hear (and prompt) as material from which to construct stories about practice, what it means to those involved, and how these meanings are negotiated, acknowledging the ever-present limitations under which communicative practices inevitably occur. Given the emphasis on situatedness in practice theories, it is important to recognize that people say different things in different situations, guided by the regulation/generation of conduct through the practical intelligibility of what is thought appropriate to that situation.

Finally, for doing, the most challenging problem is one of intelligibility, although since thinking and saying also involve doing, this means that the problems of observability and representation also apply. Those engaged in practice draw upon practical intelligibility, whether consciously or otherwise, which means that the performance of that practice is whatever it makes sense to do in that situation (Schatzki, 1988). However, for the observer not directly involved in the same practice, the understanding of the practice is not the same. Certainly some practices are more widely shared, and so the researcher can draw upon their own analogous experiences in making assumptions about what these mean. However, other practices are much more specialized and, as a consequence, opaque. The outward features of these practices may be observable, but their meaning may elude those who do not have the same practically oriented consciousness of what it feels like to perform them. Equally, if not more important, the researcher is unlikely to have the same degree of engagement in the practices of others because each has different things at stake. Practitioners, within their own field of practice, potentially have more to lose from not knowing what constitutes an accomplished performance as they will suffer the consequences. For researchers, the implications are different, with the consequences guided by the rules, norms, values and expectations of their own field of practice.

Taken together, these challenges suggest the need for a collection of research strategies that are sensitive to the specific characteristics of the various practices being investigated. Conceptually, it is appropriate to consider

thinking, saying and doing as inseparably interwoven, where it is difficult to make sense of one without invoking the others. However, it has been argued that they involve, at the same time, qualitatively different practices. As such, there is a case, analytically at least, to consider them separately.

Thinking, saying and doing sustainability and collaboration: an example

The following example, taken from discussions at a number of the team's monthly meetings, shows how a problematic issue, in this case concerning the question of environmental sustainability, is collectively negotiated and constructed in response to a corporate-level directive driven by legislative changes. The setting is important. These monthly meetings bring the whole programme team together, including representatives from the client engineering and project management team, the design consultants, the two framework contractors and the cost consultants. These different partners are involved in a five-year partnering arrangement which also includes the colocation of a large portion of the design and project management teams within the same building situated on an operational sewage treatment works. Although the monthly team meetings are only one of the hundreds of meetings that the team participates in, they are interesting for the purposes of the study because they provided a regular litmus test of the atmosphere of the team over time, the state of the relationships between the partners and any major issues affecting them. They are more strategic than operational in orientation and this is reflected in the sorts of practices taking place, which are about keeping people informed about external developments that may affect the programme, sharing information about techniques and project stories, and discussing issues of relevance to the whole team. The style of interaction is quite informal with a lot of friendly humour and jokes made at the expense of individuals, often referencing their organizational affiliation. However, just as often these are directed at those outside the team, suggesting that the programme had become an important focus of identification for its members. One of the engineers joked about a colleague who was moving from the clean water to the wastewater capital programme saying that he was 'going over to the dark side'. The story begins with the team meeting for June 2006.

It's the day of the softball and barbecue afternoon so the office is strangely quiet when I finish my meeting with [...] People are having lunch or helping with preparations. At just before 2pm everyone heads off to the [...] sports and leisure club just outside the

perimeter of the plant. The monthly team meeting is being held in the slightly shabby surroundings of the social club because the softball game to be played immediately afterwards would be on the cricket pitch over the road. Rows of chairs have been laid out and there's a relaxed atmosphere, helped by the music being played through the PA system from the computer to be used for the presentations. (Extract from fieldwork diary, 22nd June 2006)

One of the agenda items was the recent requirement introduced by the company to complete a waste management plan when planning their projects. This was being implemented with the intention of reducing the environmental impact of projects through increased on-site recycling of waste materials, reduced landfill and fewer vehicle movements. While this might seem to be a rather uncontroversial case of keeping people informed about changes to company procedure, it set in motion, as we shall see, a much more open-ended and energetically debated discussion about what it meant for the company's stance on environmental responsibility and where the activities of the team fit into this. A manager came from the head office to explain the new requirements. Throughout his explanation, he repeatedly emphasized how there is a good financial business case for reducing waste, arguing how corporate social and environmental responsibility could also be good for the bottom line. It was clear that he had made this presentation several times. He focused a lot on dry, procedural issues and rehearsed the arguments about environmental responsibility in a fairly low-key way as if it would be unthinkable for anybody to disagree with them. His surprise was quite visible when, at the end of the presentation, different members of the team challenged him on his argument. The team leader was particularly vociferous on this point, saying that he would 'like to hear the company say this is what you should do because it's the right thing to do' not simply because there is a workable business case for it. This was met with general consensus from the different members of the team regardless of organizational affiliation.

In terms of the theoretical vocabulary introduced earlier, the temporally linked unfolding of thinkings, sayings and doings actively shaped how the episode developed. The sequence of events is presented in rather schematic form in [Table 1](#). The manager from head office enters the practice setting of the monthly team meeting (doing) bringing with him a set of assumptions about how to encourage the uptake of waste management planning (thinking), which is presumably based on his previous experience of making this presentation to other teams across the company,

Table 1 Summary of events

Episode 1: Before the reorganization of the client company		
Thinking	Saying	Doing
		Shared activity of monthly team meeting
Manager from head office assumes the team shares his beliefs about new environmental procedures	Manager from head office sells the business benefits of waste management plans	
Team members reflect on their position and disagree with the financial framing of environmental issues, although not to the actual procedure	Criticize the manager from head office	Adopt new procedure for waste management planning
Episode 2: After reorganization of the client company		
Thinking	Saying	Doing
Reflection on beliefs about sustainability		Shared activity of monthly team meeting
		Client company has introduced new efficiency measures

(Continued)

Table 1 Continued

Episode 1: Before the reorganization of the client company		
Thinking	Saying	Doing
Tension between private and public rationalities of environmental responsibility and efficiency	Views about environmental concerns confined to the team	Programme team leader instructs team to do as their conscience tells them, but to put efficiency first
	Programme team leader justifies the position using similar argument to head office manager	

as well as wider managerial discourses about corporate social responsibility. He verbalizes these assumptions throughout his presentation (saying), prompting various team members to reflect upon how this fits with their own beliefs and understandings regarding this issue (thinking). He is then subjected to public criticism (saying), although in the end it really makes little difference, as the team is compelled to adopt the procedure (doing) regardless of whether this is based on moral or instrumental justifications.

The breakdown that precipitates this course of events occurred due to a mismatch between the sedimented expectations regarding corporate environmental responsibility held by the head office manager and certain members of the team, respectively. Their social interaction revealed this mismatch and the concept of environmental responsibility was unsettled from its status as an unexamined set of values and beliefs to being problematic and in need of negotiation. In this instance, the resolution was relatively straightforward. The personal views of the team regarding why the company should pursue environmentally sustainable

practices and those of the head office manager may be quite divergent, but the practical implications were the same. The team undertook to adopt improved waste management practices for their projects even if many of them did so because they believed it was the right thing rather than something that needed to be justified through reference to hard-nosed business rhetoric. It was sufficient for team members to express their opinions and leave it at that. However, there are other things at work in terms of the practice of collaboration and the constitution of boundaries between different fields of practice. In this case, opinions on the issue of environmental responsibility revealed themselves to be widely shared by the team and acted to solidify the identity of the team as a collaborative enterprise. At the same time, this involved boundary practices, emphasizing the difference and outsider status of the head office manager in contrast to the 'teaminess' of the team.

At a subsequent meeting a few months later in October of the same year, the issue of reducing the impact of projects on the environment was again raised, except that this time views about the relative priority of such matters had changed quite radically. This was because in the intervening period the company began a major reorganization with a strong focus on improving efficiency and concentrating only on business-critical activities. Each of the project areas was under extreme pressure to show demonstrable improvements and so, to avoid being the target of senior management interventions, the team's management was now retreating into a more conventional position on such things as environmental and social responsibility. The team leader was still keen to promote an ethos where team members were encouraged to think about their wider responsibilities and 'do the right thing', except that now he emphasized that this had to take the second place to questions of efficiency. He was keen to justify this change of position, counterposing his own interpretation and beliefs against what were portrayed as the inescapable realities of business:

You can't be a company like ours and not have environmental and sustainability objectives ... It's the money thing isn't it? How far would you go to pay to have good environmental consequences ... So money always comes into it and that's why the word sustainability is always thrown in there because ... sustainability doesn't mean saving up things now so that you can use them later on in the day. That's what it should mean. Doing things now that mean we exist and we can function ... in the future is what sustainable means in my view. But what it means to us is not doing this if it doesn't pay back. Sustainable ... means can the company afford it. Because if it

can't afford to do these things even though it wants to do them, it won't exist.

Looking at this through the lenses of thinking, saying and doing, this second episode reveals a rather different configuration to the first. The practice setting is the familiar one of the monthly team meeting with its now routine set of activities (doing), albeit back in the usual and rather more formal surroundings of the large meeting room on site. The participants are again reflecting on their beliefs about sustainability (thinking), but the context for this has dramatically changed with the shift in ownership of the client company and the newly introduced efficiency measures (doing). This creates a dynamic involving the interplay of quite different rationalities (thinking)—a more private belief system about environmental sustainability and a more public, role-constrained position that ultimately takes precedence within the changing context of the company's organizational initiatives. The implication is not only that different and potentially competing discourses can coexist within a particular setting of practice, sometimes rubbing up against each other in the form of tensions and contradictions, but also that such discourses and the interplay between them are not static but are instead dynamically constituted and situated within a whole range of other interlocking practices. Thus, while it is possible to detect a continuing concern about not taking an excessively hard-nosed and instrumental position on environmental issues in the team members' professed views over time, there was an important shift in how these were represented relative to other perspectives (saying). With the changing political climate accompanying the company's reorganization, the team's zone of manoeuvre narrowed and they self-consciously subordinated their own more personal beliefs to those of an increasingly powerful corporate discourse of efficiency.

It is in episodes such as the one described that one can find indications of multiple rationalities that are often contradictory. Sometimes these contradictions are left untouched, particularly by splitting rationalities into distinct domains (e.g. professional and personal life, work and home, individual and organization), thus allowing people to cope with the potential conflict. In these instances, some norms, values or beliefs are often privileged while others are allowed to play a less prominent role, a typical example being the self-regulation of personal beliefs that are not thought to be in line with the collective norms of conduct at work (bearing in mind the provisional and contested character of the latter). In other cases, the tensions cannot so easily be contained and erupt into situations where attempts are made to repair and resolve the contradiction. These situations provide the stimulus for collective

critical inquiry, but as the example shows the capacity for critical reflection may not be enough if the political context and distribution of power is such that established patterns of thinking and acting cannot be overturned.

As with the previous episode, there are indications of identity work and boundary practices in action. The team still coalesces around the issue of environmental responsibility, but now the constitution of boundaries with those outside the team has taken on a more defensive character compared with the almost rebellious rebuttal of the head office's position in the earlier example. Now the team is wary of drawing attention to itself in case the new senior management team decides to intervene more directly with the activities of the programme, as it had already done with other parts of the business. There was a climate of fear and a few cracks were starting to show in the coherence of the team, not least as a sizeable number of people were leaving the team, either to move to jobs in other companies or to move back to the permanent offices of their parent organizations. A few more months passed and, as if to symbolize the changing circumstances, the programme team leader himself decides to leave. In my last conversation with him he explained the circumstances surrounding his departure, and again one can see the tension between his different entanglement in practices of thinking, saying and doing.

At that time, you don't see that as a really important thing, do you, because it's not being questioned or challenged or ... you're not having to examine your moral code and principles that much, because you're happy and you're getting on with your work. It's only when things happen that you don't like so much that you start to sort of mark them against your principles and code ... And then what happened with the company recently, which I've not been happy with when matched up against my principles, it made a difficult decision quite easy. So ... all those things sort of came together and said, well, it's almost as if this is meant to be, because not only that, but then the opportunity came forward at the same time. I didn't go out searching for it just because I was unhappy; it just happened to be there, so it's almost as if it had to happen. (Interview with Programme Team Leader, 3rd May 2007)

Conclusion

The practice turn in the study of projects, as in other areas, has been an important and useful development. Its emphasis on the mutually constituting interplay of the various elements of social life, its understanding of

the open-ended, provisional and situated nature of practices, and its rejection of dualisms and essentialism, provide a solid theoretical and methodological foundation upon which to build a detailed comprehension of project work as an ongoing accomplishment. It has brought us closer to the lived experience of projects and their 'actuality' (Cicmil *et al.*, 2006), focusing on the often overlooked and mundane features of project work and how they are embedded in a broader knotting together of social, economic, organizational and institutional practices (Blomquist *et al.*, 2010; Hartmann and Bresnen, 2011).

While this is an overwhelmingly positive development, offering a complementary stream of project research, this paper has also argued that practice theories bring with them a number of issues and ambiguities that may limit their usefulness unless they are acknowledged and addressed. In particular, the paper has suggested that there is an anti-cognitivism in practice theories that often leads them to avoid important questions about the knowledgeability of practice, where practical intelligibility comes from and how it is transmitted across progressive episodes of instantiated activity. Many of the elements are there in terms of the interplay between rules, norms, values, beliefs and the negotiation of meaning, but the avoidance of sharp distinctions and dualistic thinking frequently makes the boundaries between these constructs rather blurred. To counter this, the contribution of this paper has been to introduce an analytical (rather than ontological) distinction between thinking, saying and doing as qualitatively different, yet interlinked practices. There is, of course, plenty of scope to take these ideas further, but the paper has sought to show, with the help of the empirical illustration, the potential of tracing through the various interplay and configurations of these practices as a way of understanding the situated and temporally path-dependent evolution of a particular field of practice, in this case a programme engineering team in the water industry. In doing so, a number of associated issues have been highlighted, such as the way that breakdowns in the smooth flow of thinking, saying and doing can operate to stimulate more reflective inquiry, how these practices are about identity work as much as the more instrumental aspects of the joint tasks undertaken by the programme team and how they also help to constitute boundaries inside and outside the team.

This has both theoretical and practical relevance for understanding project collaboration not as a static organizational trait or fixed end point, but instead as emerging continuously and variably from the historically and culturally embedded practices of project participants. The empirical illustration showed the shifting development of the programme team as a

collaborative endeavour and attempted to link this to the wider fields of practice within which it was situated. In the earlier episode, the team is united around a common cause, with a clear boundary being drawn between the team and the head office of the client organization. In the later episode, the context has changed dramatically and, while traces of this unity are still there, it is evident that there are also disintegrative forces at play that reveal a much more defensive form of cohesion than before. By looking at these specific episodes in terms of shifting configurations of thinking, saying and doing, as intermingled yet qualitatively different practices, this paper has attempted to offer insights into how these specific situations unfolded along particular trajectories that helped to shape subsequent episodes of practice.

One implication of this is that collaboration, as continuously constituted out of ongoing practices, is necessarily provisional and potentially fragile and reversible. Moreover, it is important to see the situated character of collaborative practices in all their variability rather than as a fixed or all-encompassing condition that can be said to characterize a project or team *in toto*. Thus, for example, the displays of cohesion and mutual support revealed in the empirical examples say as much about the specific situation and activity in which the team was embedded (a full team meeting directed towards wider and more strategic issues) as they do about any sort of emerging integration between its diverse membership. Under different conditions, such as a project meeting to discuss a disputed specification, a time overrun or a budget inconsistency, the evidence for collaborative practices may not be forthcoming, even though it may reappear as the situations, participants and activities continuously shift and change. Nevertheless, bearing in mind the temporally embedded and path-dependent configurations and reconfigurations of thinking, saying and doing, such situational differences are not open ended and arbitrary but shaped along specific, yet always partly indeterminate, historical and cultural trajectories.

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